

# Notice of Allowability

Application No.

09/988,612

Examiner

Brenda Pham

Applicant(s)

MIMURA, MASAHIKO

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/20/01.
2. ☒ The allowed claim(s) is/are 9-11, renumbering as 1-3.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All b) ☐ Some\* c) ☐ None of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 2/04;1/03;11/01
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

BRENDA PHAM  
PRIMARY EXAMINER

*Brenda A. Pham* 8/3/06

### **REASONS FOR ALLOWANCE**

1. Claims 9-11 allowed over prior art.
2. The following is an examiner's statement of reasons for allowance: the prior art made of record fails to teach or fairly suggests in combination idle hard handoff controlling means for, when a difference between channel occupancies determined by said channel occupancy monitoring means with respect to a plurality of radio frequencies allocated to a single base station becomes a predetermined state, giving a predetermined idle hard handoff instruction for controlling a radio frequency whose channel occupancy determined by said channel occupancy monitoring means is in a predetermined state to a predetermined mobile station of mobile stations that are present in a cell formed by said base station and in a standby state, characterized by comprising: candidate radio frequency setting means for, when the idle hard handoff instruction is received, setting a candidate radio frequency to be used at the time of generating of a next cell to the radio frequency designated by the received idle hard handoff instruction.

The prior art fails to teach or fairly suggests in combination frequency use state notifying means for generating frequency use state information for notifying said mobile station of a use state of each radio frequency on the basis of the channel occupancies determined by said channel occupancy monitoring means, and causing each of said plurality of base stations to transmit the information, characterized by comprising: radio frequency list forming means for receiving the frequency use state information transmitted from said base station under the control of said frequency use state

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notifying means and forming a radio frequency list in which priority levels are assigned to a plurality of radio frequencies on the basis of the frequency use state information; storage means for storing the radio frequency list formed by said radio frequency list forming means even in a power-off state; and initial candidate frequency setting means for performing a search immediately after power-on to check in the order of priority levels whether the radio frequencies indicated by the radio frequency list stored in said storage means can be used, and setting the first detected radio frequency that can be used as a candidate radio frequency to be used.

The prior art mad of record does not teach in combination handoff method determining means for, when said mobile station moves to a new cell formed by another base station belonging to the same base station group to which said base station forming an old cell in which said mobile station has been present belongs, checking, on the basis of the channel occupancy determined by said channel occupancy monitoring means with respect to said base station forming the new cell, whether the channel occupancy of the radio frequency in the new cell, which has been used by said mobile station in the old cell, is not less than a predetermined value, and determining soft handoff if the channel occupancy of the radio frequency in the new cell, which has been used by said mobile station in the old cell, is less than predetermined value, and hard handoff if the channel occupancy of the radio frequency in the new cell, which has been used by said mobile station in the old cell, is not less than predetermined value; and network-side handoff control means for performing predetermined handoff control associated with said mobile station by the method determined by said handoff method

determining means, and notifying said mobile station of a radio frequency whose channel occupancy in the new cell is not more than a predetermined value, when hard handoff is to be performed, characterized by comprising: mobile-station-side handoff control means, arranged in said mobile station, for performing predetermined handoff processing under the control of said network-side handoff control means, when said mobile station moves to a cell formed by another base station belonging to the same base station group to which said base station forming a cell in which said mobile station has been present belongs, and performing hard handoff to switch to a radio frequency notified by said network-side handoff control means when hard handoff is designated.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fischer et al (US 5,621,786) discloses a passive handoff cellular communication system includes a cell divided into a plurality of zones.

Sakamoto et al (US 5,317,623) discloses a method of handover and route diversity in a mobile radio communication which is less time consuming and capable of improving the frequency spectrum utilization efficiency and securing the high quality of service regardless of the moving speed of the mobile station.

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**Conclusion**

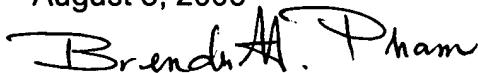
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brenda Pham whose telephone number is (571) 272-3135. The examiner can normally be reached on Monday-Friday from 9:00 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ahmad Matar, can be reached on (571) 272-7488.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-2600.

Brenda Pham

August 3, 2006

A handwritten signature in black ink that reads "Brenda A. Pham". The signature is written in a cursive style with a large, stylized "A" and "P".

**BRENDA PHAM  
PRIMARY EXAMINER**